

**REMARKS**

The Advisory Action mailed April 16, 2004, has been received and reviewed. Claims 1 through 9, 11 through 32, and 34 through 62 are currently pending in the application. The Advisory Action indicates that Claims 1 through 8, and 10 through 62 stand rejected. Claim 9 has been objected to but the Examiner's indication of allowable subject matter is noted with appreciation. Applicants have amended claims 1, 16, 17, 20, 27, 29, 30, 34, 35, 37, 39, 42, 47, 53, and 62, canceled claims 9, 31, 32, 40, and 41, and added new claims 63-68, and respectfully request reconsideration of the application as amended herein.

**35 U.S.C. § 103(a) Obviousness Rejections**

Applicants have used paragraph numbering from the previous Office Action dated Jan. 2, 2004 in combination with the Advisory Action dated April 16, 2004, to identify and address the obviousness rejections. Also, note that in the Advisory Action, the Examiner has added a new reference of U.S. Patent No. 6,107,910 to Nysen.

4. Claims 1-4, 6-8, 11-18, 24-26, 30-32, 35, 41-43, 46, and 60 stand rejected under 35 U.S.C. § 103(a) based on U.S. Patent No. 4,396,149 to Hirsch in view of U.S. Patent No. 5,053,774 to Schuermann et al. and further in view of U.S. Patent No. 6,107,910 to Nysen.

5. Claim 9 was rejected under 35 U.S.C. § 103(a) based on U.S. Patent No. 4,396,149 to Hirsch in view of U.S. Patent No. 5,053,774 to Schuermann et al. and further in view of U.S. Patent No. 4,903,031 to Yamada. However, the Advisory Action indicates that Claim 9 contains allowable subject matter.

6. Claims 19-23, 27-29, 53-59, 61, and 62 stand rejected under 35 U.S.C. § 103(a) based on U.S. Patent No. 4,396,149 to Hirsch in view of U.S. Patent No. 5,053,774 to Schuermann et al. and further in view of U.S. Patent No. 5,337,957 to Olson.

7. Claims 5, 34, 36-40, 44, and 62 stand rejected under 35 U.S.C. § 103(a) based on U.S. Patent No. 4,396,149 to Hirsch in view of U.S. Patent No. 5,053,774 to Schuermann et al. and further in view of U.S. Patent No. 4,683,904 to Iltis.

8. Claims 45, 47, 49, 50, and 52 stand rejected under 35 U.S.C. § 103(a) based on U.S. Patent No. 4,396,149 to Hirsch in view of U.S. Patent No. 5,053,774 to Schuermann et al. and further in view of U.S. Patent No. 5,927,603 to NcMabb.

9. Claim 48 stands rejected under 35 U.S.C. § 103(a) based on U.S. Patent No. 4,396,149 to Hirsch in view of U.S. Patent No. 5,053,774 to Schuermann et al. and further in view of U.S. Patent No. 5,927,603 to NcMabb and U.S. Patent No. 4,662,563 to Wolfe, Jr.

Applicants respectfully traverse these rejections, as hereinafter set forth.

M.P.E.P. 706.02(j) sets forth the standard for a Section 103(a) rejection:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, **the prior art reference (or references when combined) must teach or suggest all the claim limitations.** The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (Emphasis added).

Regarding claim 1, in the Advisory Action, the Examiner has indicated withdraw of the rejection to claim 9, which was previously rejected in the Office Action dated Jan. 2, 2004. As a result, Applicants have incorporated the allowable subject matter from claim 9 into independent claim 1. Because independent claim 1 as amended contains the allowable subject matter from claim 9, independent claim 1 is now allowable and Applicants respectfully request that the rejection of independent claim 1 be withdrawn.

Regarding claim 9, because the allowable subject matter from claim 9 has been incorporated into independent claim 1, Applicants have canceled claim 9.

Regarding claims 2-8, and 11-19, these claims are allowable because they depend from now allowable amended claim 1. Therefore, Applicants respectfully request that the rejection of claims 2-8, and 11-19 be withdrawn.

Regarding claim 20, in the Advisory Action, the Examiner has indicated withdraw of the rejection to claim 9, which was previously rejected in the Office Action dated Jan. 2, 2004. As a result, Applicants have incorporated the allowable subject matter from claim 9 into independent claim 20. Because independent claim 20 as amended contains the allowable subject matter from claim 9, independent claim 20 is now allowable and Applicants respectfully request that the rejection of independent claim 20 be withdrawn.

Regarding claims 21-29, these claims are allowable because they depend from now allowable amended claim 20. Therefore, Applicants respectfully request that the rejection of claims 21-29 be withdrawn.

Regarding claim 30, in the Advisory Action, the Examiner indicates that Applicants arguments for claim 34 directed toward the “passive” elements of the moisture sensing capacitor and inductive loop are not persuasive because the passive elements are not claimed in the claim. Applicants thank the Examiner for the observation. As a result of this observation, Applicants have amended independent claim 30, the claim from which claim 34 indirectly depends, to emphasize the absence of “active” elements in the probe by modifying the electronic circuit to recite “at least one electronic circuit consisting essentially of a moisture sensing capacitor and an inductive loop.”

Additionally, to be certain there is no confusion of terms, Applicants wish to emphasize the different uses for “passive” and “active.” As used in Applicants arguments, and as applies to claim 30 and claims dependent from claim 30, “passive elements” refers to circuit elements that

may exhibit their behavior without requiring a separate power source or power storage, such as, for example, resistors, capacitors, and inductors. Whereas “active elements” refers to circuit elements which may require a power source, such as, for example, controllers, amplifiers, and transistors.

On the other hand, through most of the Advisory Action, the terms “passive” and “active” are used to refer to transponders. In this context, “passive” refers to the ability to operate without and internal power source or the ability to generate internal power from an excitation signal, whereas “active” refers to transponders that include their own internal power source and may be partially active even when not being interrogated.

With these amendments to independent claim 30, Applicants believe they have addressed the Examiner’s observation and have placed independent claim 30 in position for allowance. As a result, Applicants respectfully request the rejection of claim 30 be withdrawn.

Applicants have canceled claim 31.

Applicants have canceled claim 32 because the subject matter from claim 32 has been incorporated into independent claim 30.

Regarding claims 34-39, these claims are allowable because they depend from now allowable amended claim 30. Therefore, Applicants respectfully request that the rejection of claims 34-39 be withdrawn.

Applicants have canceled claims 40 and 41.

Regarding claim 42, in the Advisory Action, the Examiner has indicated withdraw of the rejection to claim 9, which was previously rejected in the Office Action dated Jan. 2, 2004. As a result, Applicants have incorporated the allowable subject matter from claim 9 into independent claim 42. Because independent claim 42 as amended contains the allowable subject matter from claim 9, independent claim 42 is now allowable and Applicants respectfully request that the

rejection of independent claim 42 be withdrawn.

Regarding claims 43-46, these claims are allowable because they depend from now allowable amended claim 42. Therefore, Applicants respectfully request that the rejection of claims 43-46 be withdrawn.

Regarding claim 47, in the Advisory Action, the Examiner has indicated withdraw of the rejection to claim 9, which was previously rejected in the Office Action dated Jan. 2, 2004. As a result, Applicants have incorporated the allowable subject matter from claim 9 into independent claim 47. Because independent claim 47 as amended contains the allowable subject matter from claim 9, independent claim 47 is now allowable and Applicants respectfully request that the rejection of independent claim 47 be withdrawn.

Regarding claims 48-52, these claims are allowable because they depend from now allowable amended claim 47. Therefore, Applicants respectfully request that the rejection of claims 48-52 be withdrawn.

Regarding claim 53, in the Advisory Action, the Examiner has indicated withdraw of the rejection to claim 9, which was previously rejected in the Office Action dated Jan. 2, 2004. As a result, Applicants have incorporated the allowable subject matter from claim 9 into independent claim 53. Because independent claim 53 as amended contains the allowable subject matter from claim 9, independent claim 53 is now allowable and Applicants respectfully request that the rejection of independent claim 53 be withdrawn.

Regarding claims 54-61, these claims are allowable because they depend from now allowable amended claim 53. Therefore, Applicants respectfully request that the rejection of claims 54-61 be withdrawn.

Regarding claim 62, in the Advisory Action, the Examiner has indicated withdraw of the

rejection to claim 9, which was previously rejected in the Office Action dated Jan. 2, 2004. As a result, Applicants have incorporated the allowable subject matter from claim 9 into independent claim 62. Because independent claim 62 as amended contains the allowable subject matter from claim 9, independent claim 62 is now allowable and Applicants respectfully request that the rejection of independent claim 62 be withdrawn.

Finally, Applicants have added new independent claim 63 and new claims 64-68, which depend from independent claim 63. Independent claim 63 incorporates the now allowable subject matter from amended claim 30 into a data acquisition and telemetry system claim. Because independent claim 63 contains the now allowable subject matter from claim 30, Applicants believe independent claim 63 is allowable and Applicants respectfully request that independent claim 63 be entered and allowed. Also, because claims 64-68 depend from independent claim 63, claims 64-68 should be allowable and Applicants respectfully request that claim 64-68 be entered and allowed.

**ENTRY OF AMENDMENTS**

The amendments to claims 1, 16, 17, 20, 27, 29, 30, 34, 35, 37, 39, 42, 47, 53, and 62, and new claims 63-68 above should be entered by the Examiner because the amendments are supported by the as-filed specification and drawings and do not add any new matter to the application. Further, the amendments do not raise new issues or require a further search.

**CONCLUSION**

Claims 1-8, 11-30, 34-39, and 42-68 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, he is respectfully invited to contact Applicants' undersigned attorney.

Respectfully submitted,



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Date: 14 JUL 04